



# Hansen–SDG15: Maintaining Life on Land

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## Overview

In order to help countries sustain forest ecosystems, we have been working closely with leading scientific institutions and governmental ministries in Colombia, Ecuador, and Peru to use remote sensing and other spatial data to calculate comprehensive indicators, validate these indicators for national use, and make them available via a decision support system for policy development and reporting on SDG 15.



## Objectives

1. Assess the collaborating countries' needs for decision support regarding SDG15 under climate change
2. Project change to 2100 in forest structure and composition, vertebrate habitats, and water risk under scenarios of climate, socioeconomics, and policy
3. Use results to inform reporting and policymaking for SDG15
4. Develop an SDG decision support system

## Topics for Poster

SDG15 Indicators and Partners  
Modeling Human Footprint  
Analysis of riparian forest and hydrology  
Projection of ecosystem types and vertebrate species.



## Scenarios

Climate	Socioeconomic (Policy)	
	Business as usual	Conservation policies to meet SDG15 targets
RCP 4.5		
RCP 8.5		

## Project Flow

**Goals**  
SDG15 Targets

**Historic patterns**  
SDG15 metrics 2000-2020

**Develop models**  
Biodiversity response to climate and human footprint

**Potential future patterns**  
Forecasts under scenarios 2020-2050

**Conservation planning**  
Develop and implement plans to meet SDG15 targets based on what is learned from forecasts

## SDG15 indicators, metrics

Indicator	Metric
TARGET 15.1: By 2030, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements	15.1.1 Forest area and natural forest area by ecosystem type Natural forest area as proportion of ecosystem type area Average proportion of Terrestrial Key Biodiversity Areas (KBAs) covered by protected areas Average proportion of ecosystem types covered by protected areas
15.2: By 2030, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally	15.2.1 Proportion of important sites for terrestrial and freshwater biodiversity that are covered by protected areas, by ecosystem type 15.2.2 Progress towards sustainable forest management by ecosystem type Proportioned distribution of forest integrity condition classes by ecosystem type Forest fragmentation index by ecosystem type (all forest, high forest forest) Forest connectivity index by ecosystem type (all forest, high forest forest)
TARGET 15.3: By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world	15.3.1 Proportion of land that is degraded by ecosystem type 15.3.2 Coverage by protected areas of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development
TARGET 15.4: By 2030, ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development	15.4.1 Coverage by protected areas of mountain biodiversity
TARGET 15.5: Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2030, protect and prevent the extinction of threatened species	15.5.1 Protection of species habitats Area of suitable habitats for selected vertebrate species Average proportion of forest dependent species ranges covered by protected areas
	Water quality and quantity As above for all ecosystem types

**Monitor and evaluate**  
SDG15 Indicators  
SDG15 Metrics

**Report**  
Status and change in  
SDG15 Indicators